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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/790,992	03/02/2004	Mikhail Nemenov		1316

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EXAMINER	
JOHNSON III, HENRY M	
ART UNIT	**PAPER NUMBER**
3739	
MAIL DATE	**DELIVERY MODE**
11/09/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/790,992	NEMENOV ET AL.	
	Examiner	Art Unit	
	Henry M. Johnson, III	3739	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 September 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *12-15 and 17-34* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *12-15 and 17-34* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *27 September 2007* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *092707*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on September 27, 2007 has been entered.

Response to Arguments

Applicant's arguments filed September 27, 2007 have been fully considered but they are not persuasive. Applicant has not provided disclaiming affidavits made out by the other authors establishing that the relevant portions of the publication originated with, or were obtained from, applicant. The documentation provided was not notarized and all of the co-authors were not represented; specifically Stefan Schwarz and Lars Arendt-Nielson provided no documentation. Further, the statements for Greffrath, Vogel and Treede only addressed the laser device, with no mention of the method of using for stimulation. The declaration by the Applicant is acknowledged. The lack of evidence by the two co-authors cited above is considered evidence that the co-authors have refused to disclaim inventorship and believes himself or herself to be an inventor, thus the Applicant's declaration is not enough to establish that applicant is the sole inventor and the rejection will stand. Ex parte Kroger, 219 USPQ 370 (Bd. Pat. App. & Int. 1982)

Claim Objections

Claims 18 and 24-27 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent

form, or rewrite the claim(s) in independent form. No further method step or limitation is included that would specifically lead to the result as cited.

Regarding claim 18, a step of sensing a temperature of said target is suggested.

It is noted that claims 28-34 are improperly marked as previously presented. These are new claims.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 12-15, 17, 23-26 and 28-34 are rejected under 35 U.S.C. 102(a) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over "Inward currents in primary nociceptive neurons of the rat and pain sensations in humans elicited by infrared diode laser puilses"; Greffrath et al.; International Association for the Study of Pain, September 2002. Greffrath et al. Greffrath et al. teaches that stimulation of the human skin with radiant heat stimuli generated by infrared lasers typically leads to a stinging and/or burning sensation. This painful sensation is mediated through activation of peripheral endings of Aδ- and C-fiber nociceptors. A personal computer controlled laser platform based on six GaInAs/GaAs laser diodes (980 nm wavelength) yielding up to 15 W output power into a flexible glass fiber core is disclosed for thermal stimulation. Stimulus intensity was changed by varying the laser power (2.8–11 W) and/or stimulus duration (4–400 ms). The small durations and interval clearly indicate the treatment is pulsed. The interstimulus interval following the appearance of I_{heat} was at least 44 s. Greffrath et al. disclose treatment beam diameters from 0.36 to 1.2 millimeters. A

skilled artesain would select a spot size and delivery fiber most appropriate for the desired target area.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 18-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Greffrath et al. as applied to claim 12 above, and further in view of "A Laser Stimulator for the Study of Cutaneous Thermal and Pain Sensations", Meyer et al., Biomedical Engineering, IEEE Transactions on Biomedical Engineering, Volume: BME-23, Issue: 1, January 1976. Greffrath et al. are discussed above, but do not teach closed loop temperature control. Meyer et al. teach the laser stimulation of nerves using a radiometer to provide temperature feedback to the laser control (Fig. 3). It would have been obvious to one skilled in the art to use the temperature feedback as taught by Meyer et al. in the invention of Greffrath et al. as such feedback control is pervasive in the art.

Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Greffrath et al. as applied to claim 12 above, and further in view of U.S. Patent 6,233,480 to Hochman et al. Greffrath et al. are discussed above, but do not teach single cell differentiation. Hochman et al. teach the imaging of single nerve cells, thus enabling the targeting of a single cell. It would have been obvious to one skilled in the art to imaging as taught by Hochman et al. in the invention of Greffrath et al. to identify a single nerve cell as a target for stimulation.

Double Patenting

Claims 32-34 are objected to under 37 CFR 1.75 as being a substantial duplicate of claim 24. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Henry M. Johnson, III whose telephone number is (571) 272-4768. The examiner can normally be reached on Monday through Friday from 6:00 AM to 3:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Linda C. Dvorak can be reached on (571) 272-4764. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Henry M. Johnson, III
Primary Examiner
Art Unit 3739